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PLATES AND ILLUSTRATIONS

THE IMPORTERS' AND TRADERS' NATIONAL BANK BUILDING, NEW YORK.

THE new structure of The Importers' and Traders' Bank, No. 247 Broadway, marks an era in the construction of building of this type. In fact, it may be said that its scheme, both in arrangement and in the disposition of the various departments is almost revolutionary, inasmuch as it departs from the tradional system of a main banking room covering an extended floor area, and is contained on a single lot twenty-five feet wide and a hundred feet deep.

When, some two years ago it was decided to replace the old building, occupying the present site, with a new building, it was universally thought necessary to acquire several of the adjoining lots on Broadway. It was considered impracticable to house the various departments on a lot less than fifty by one hundred, and even a hundred feet frontage was considered a minimum by many.

After mature consideration and an exhaustive study by the President, Mr. Edward Townsend, of the possibilities of the problems involved, it was decided to reject the offers of additional property and to build on the present site only.

The commission to prepare plans and supervise the erection of the building was awarded by the Board of Directors to J. H. Freedlander, and work was begun in June, 1907.

The new building is in every sense of the word a home for the bank. It is devoted to the conduct of its business only, and contains no outside offices of any kind. It is six stories high with a basement and sub-basement. The first, second and third floors contain the departments for the transaction of the public business. The fourth floor is devoted to the correspondence, etc., the fifth to the Directors' suite, and the sixth to the future growth of the bank.

The various departments are located as follows:

1st Floor—Receiving Teller; Note Teller; Collection Clerk.

2d Floor—Paying Teller; Individual and Balance Book-keepers; Assistant Cashier.

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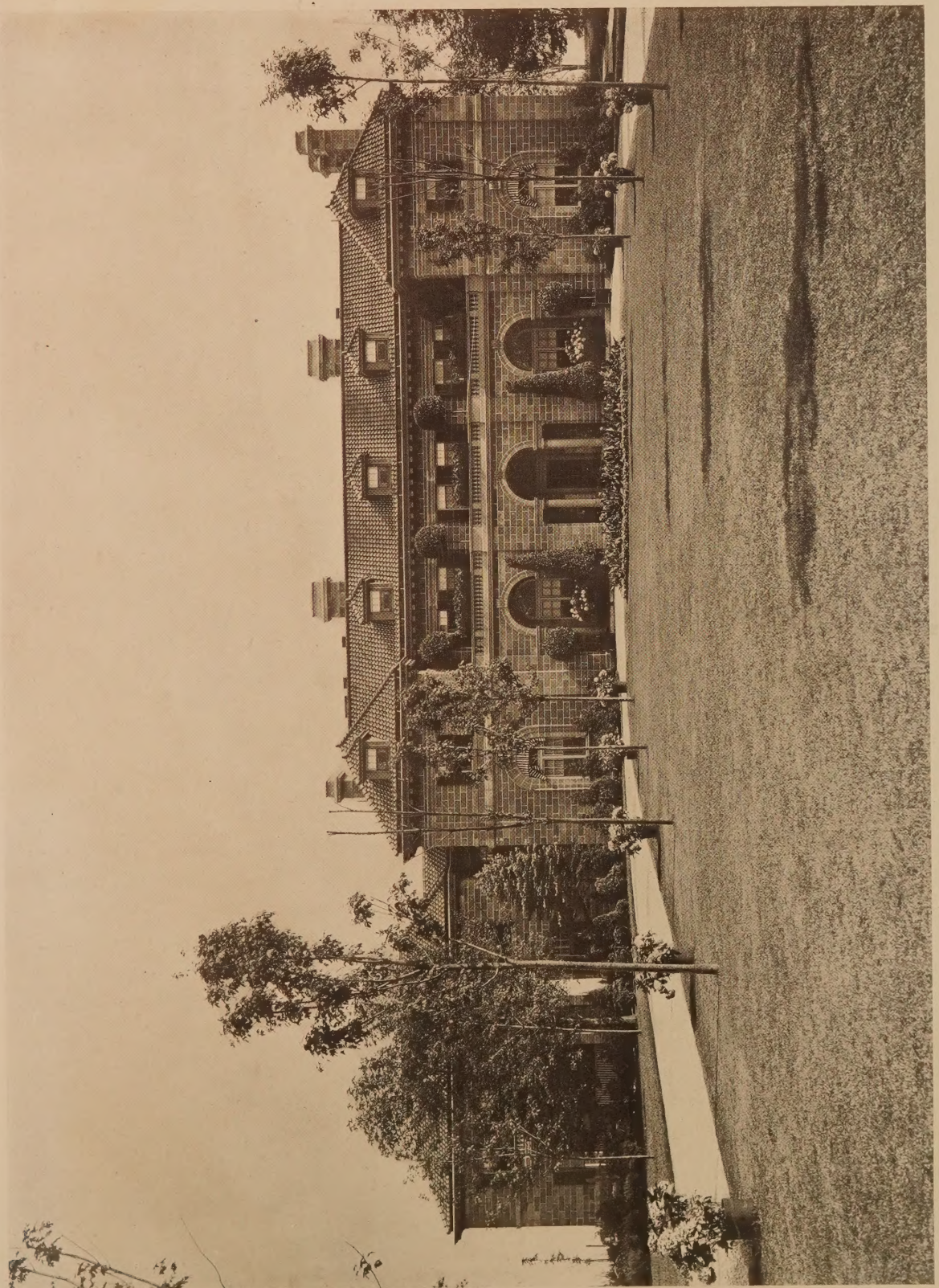
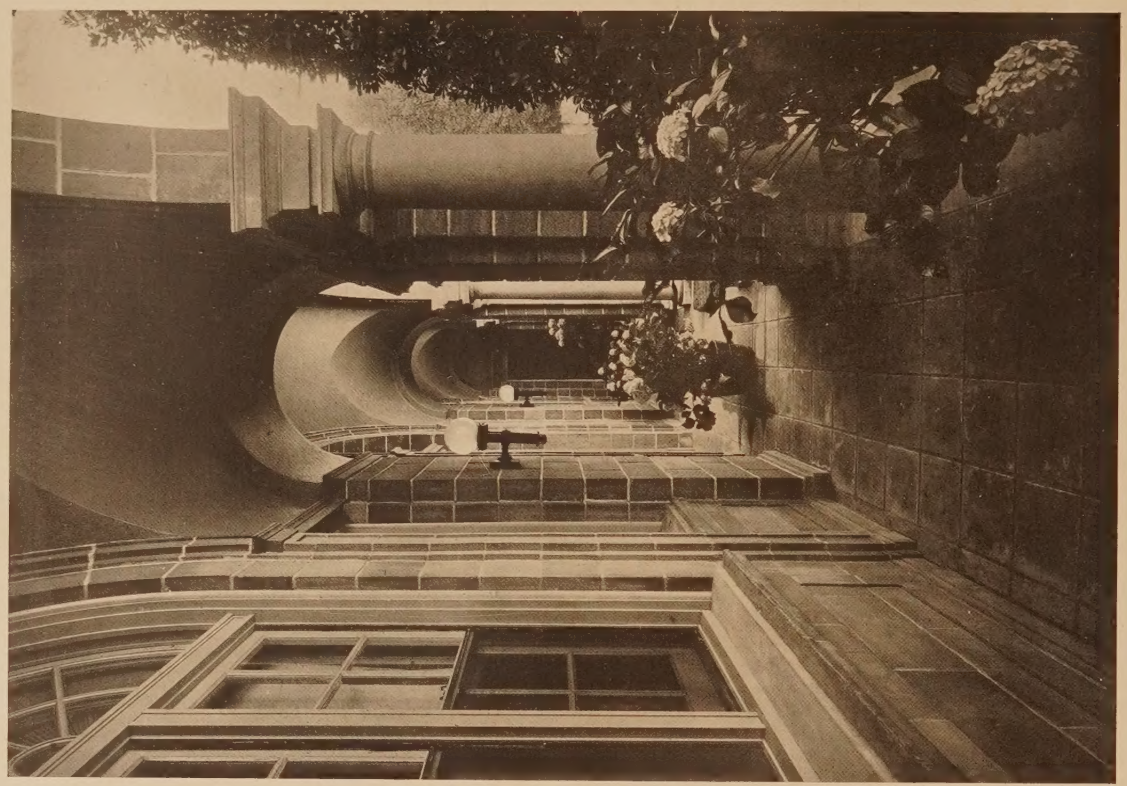
LAWN FRONT, COUNTRY HOUSE, EDW. S. HARKNESS, NEW LONDON, CT. (A splendid example of concrete block construction.) Lord & Hewlett, Architects. F. E. Baker, Photo.

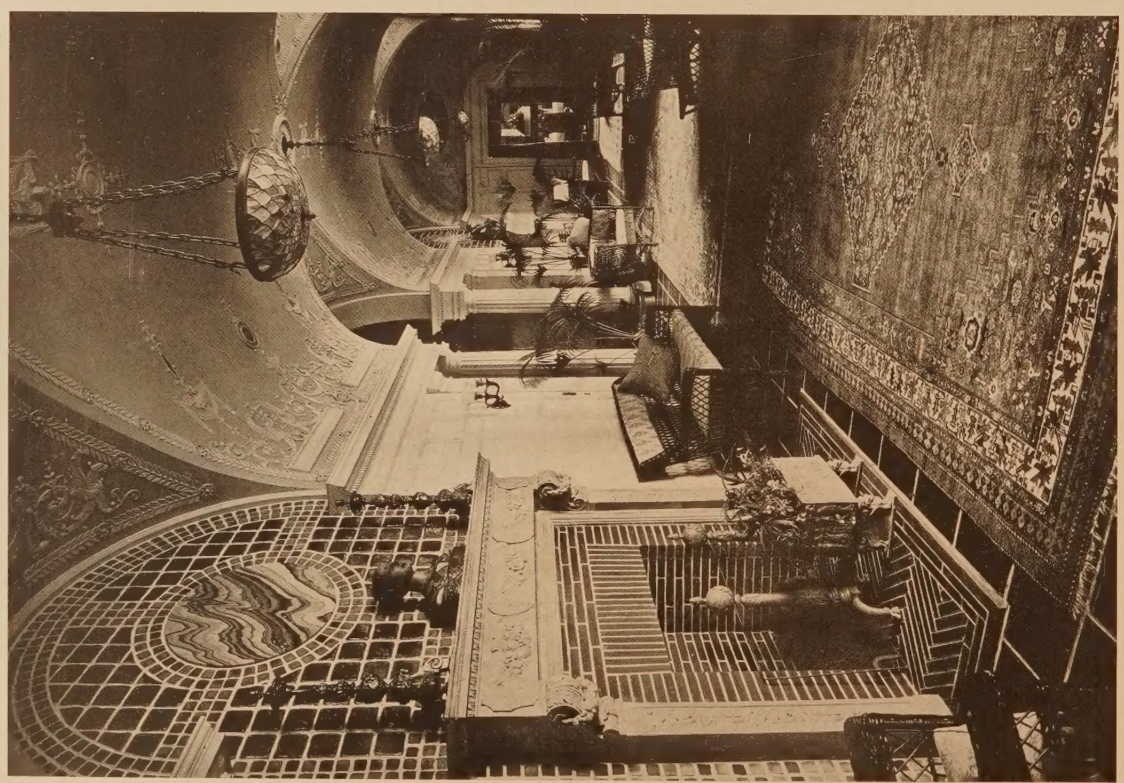


ENTRANCE FRONT, COUNTRY HOUSE, EDW. S. HARKNESS, NEW LONDON, CT.

Yale & Towne Hardware.

Lord & Hewlett, Architects. F. E. Baker, Photo.





DETAILS, COUNTRY HOUSE, EDW. S. HARKNESS, NEW LONDON, CT.

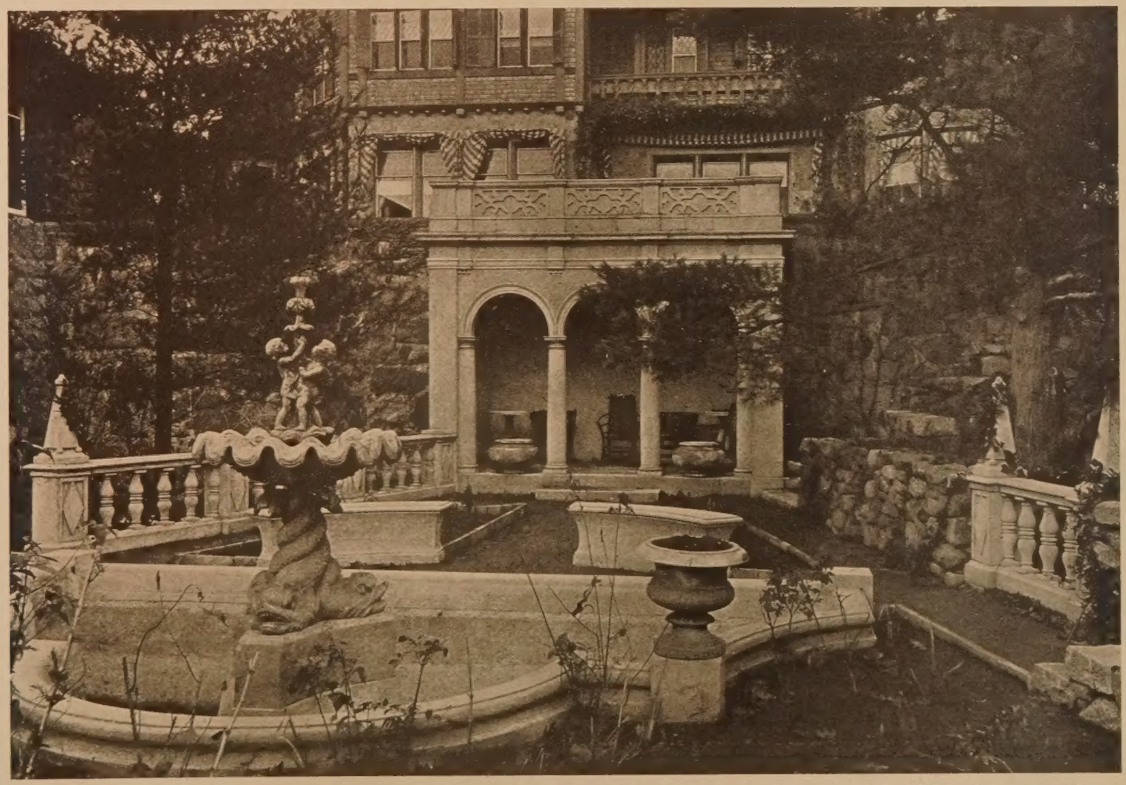
Lord & Hewlett, Architects. F. E. Baker, Photo.

DETAILS, COUNTRY HOUSE, EDW. S. HARKNESS, NEW LONDON, CT. Lord & Hewlett, Architects. F. S. Baker, Photo.

BARTLETT COURT, LAKE GENEVA, WIS. (Cast concrete) Howard Shaw, Architect.

COUNTRY HOUSE, H. CARPENTER, LAKE GENEVA, WIS. (Cast concrete) Howard Shaw, Architect.

COUNTRY HOUSE, DR. GUY COCHRAN, LOS ANGLES, CAL. (Stucco on metal lath) Myron Hunt and Elmer Grey, Architects.



AN ENGLISH GARDEN AT PRIDE'S CROSSING, MASS. Executed in Concrete Stone by Emerson & Norris Co. Little & Browne, Architects.

COUNTRY HOUSE, HERBERT UNDERWOOD. FOX POINT, WIS. (Stucco on metal lath) Elmer Grey, Architect.

COUNTRY HOUSE, C. P. FOX, PENLLYN, PA. (Stucco on brick) Cope & Stewardson, Architects.

RESIDENCE, HOWARD B. GREEN, SWARTHMORE, PA. (Concrete) W. L. Hack, Architect.

HOUSE AT PELHAM MANOR, N. Y. (Terra Cotta blocks plastered) Louis Metcalf, Architect.

COUNTRY HOUSE, ROBT P. WALKER, GLENCOE, ILL. (Stucco on metal lath) Spencer & Powers, Architects.

"OUR LADY OF LORETTO" R. C. CHURCH, EAST NEW YORK. Showing the possibilities of cast concrete. Adriano Armezzani, Architect.

GROTESQUES IN CONCRETE STONE, CADET BARRACKS, WEST POINT. Cram, Goodhue & Ferguson, Architects. Lee O. Lawrie, Sculptor.
Executed by the Economy Mfg. Co.

(*Continued from page 137*)

3d Floor—Officers' Room; Discounts; Loans and General Book-keepers; Typewriters.

4th Floor—Check Clerks; Corresponding Department; Bank Book-keepers.

5th Floor—Directors' Suite; Future space for Clerks.

6th Floor—Future space for Clerks; Security Vault; Book Vault.

Basement—Stationery Room; Locker Room, etc.

Sub-Basement—Mechanical Plant.

The banking rooms proper are served by two passenger elevators, located in the center of the building, while in the service portion in the rear are placed a service car for clerks and a security elevator, giving access to the security vault.

The system of placing the important departments of receiving and note teller, paying teller and discounts and loans on three separate floors respectively, and serving them by elevators, greatly simplifies the conduct of business in each of them, isolates the lines of depositors and gives a greater abundance of space and floor area to each department. Furthermore, this scheme permits of ample light and air on every floor. The lighting in this case is lateral and direct, as distinguished from overhead light, and need carry only the depth of the room. Abundant sunshine and air is thus secured in every part of the bank.

The elevators, enclosed in glass screens permit of constant observation of the various departments.

The rear of the building is devoted to the service, including the elevators, staircases, toilet rooms, etc. Every available space is made to serve some practical requirement and it has been possible to obtain a maximum area in each banking room of 2,025 square feet.

The building is absolutely fireproof and with the exception of an upper layer of oak flooring, no wood has been used in its construction.

The front of the third floor contains the offices of the president, cashier and assistant cashier, while the major portion of the fifth floor is devoted to the directors' room and foyer. The rear of this floor and the entire sixth are unassigned at present, but permit of future expansion of the bank.

The main security vault is located in the basement. In close proximity are placed the day-book vault, stationery room, storage vault, locker rooms, toilets, etc.

The mechanical plant occupies the entire space of the sub-basement. The building is ventilated irrespective of the direct heating system by a continuous supply of fresh air blown through and exhausted by means of electric fans. The plant embraces, likewise, a refrigerating apparatus, an ice machine, a vacuum sweeper, an independent emergency boiler, fire pumps, etc.

A great variety of materials has been used in the construction of the building; the exterior windows are made of solid bronze and are among the largest castings of this material in the city.

The marbles used are principally Italian, including Breche Vert, Fleur de Pache, Pavanazzo, Tennessee, etc.

The wainscots in the directors' and officers' rooms are of Circassian walnut and chestnut respectively. Caen stone is used extensively, including the ceiling of the first floor and directors' room, the walls of the second and third banking floors, etc.

In regard to the exterior, the proximity of the City Hall has emphasized to a certain degree the necessity of classic treatment. By the employment of the Corinthian order, and its treatment by means of a base, pilasters and columns, the greatest possible simplicity of design has been obtained.

The inherent refinement and purity of detail of the classics has been drawn upon to give to the building a simple dignity in consonance with the purposes for which it is intended.

STUCCO AND THE TREATMENT OF CEMENT EXTERIORS.

ROSS F. TUCKER, M. AM. SOC. C. E., PRESIDENT, CONCRETE ASSOCIATION OF AMERICA.

DURING a recent conversation with a prominent architect, the remark was made that architects generally are more concerned with the future of the artistic qualities of concrete than they are with its structural qualities. They know that concrete teems with possibilities from an engineering standpoint, but they consider that its artistic achievements have thus far been decidedly limited.

It is, however, not the fault of the material, but of its users that this is so. The architects themselves are largely to blame, for the reason that they have not yet had the courage to treat concrete according to its own worth. They have done little or nothing but insist upon using concrete as an imitator of other materials. Has anyone yet seen a pergola anywhere in which the concrete columns have been anything but imitations of stone in the Doric or Ionic orders? No one will criticize these classis shafts, to be sure, but they are not stone; neither are they concrete, except in composition.

If their experience in the use of cement is limited, the several parts are cast in gelatin molds, or, if they know better than that, they labor to reproduce stone textures as closely as possible, in order that when it is finished the completed structure may successfully pass for what it is not. And, after all, what have we? A cold, gray column of more or less even color, or, if that is not attained in the making, a carefully washed or painted face that looks rather well for a time. But presently the sun and rain will do their work and the suit will get shabby and the tinsel will tarnish. Perhaps the whole surface has the appearance of a map, with a multitude of hair cracks for boundary lines. Then they turn their backs and decide that concrete is of little use for such purposes. I suppose an old Sioux war chief would come to the same conclusion if some of our actor-Indians should try to go on the warpath with the rest of his braves. But who is to blame? Is it fair, because we fail by our own ignorance, to charge it all up to concrete? Has it not occurred to someone that there are other forms for holding up trellisses beside Doric columns, and are there no other materials known to the art but sand and cement? There are, as a matter of fact, yellow cements and blue cements and snow-white cements; and there are fine sands and coarse sands and white sands and red sands; and crushed granite and crushed marble, black and white; and crushed, hard, red brick; and crushed stone of a dozen varieties of various sizes, all of which constitute textures and colors of many kinds, and then there are masses in dull greens and blues and yellows, of splendid value, in tile, to use in combination with concrete, made with selected aggregates.

(*Continued page 151*)

"CASA DEL PONTE," GREENWICH, CT. (Stucco on brick)

Slee & Bryson, Architects.

(Continued from page 149)

And stucco! "O, liberty, what crimes are committed in thy name!" There are many people who say that stucco will not stick. Of course, it will not stick, unless you give it something to stick with and to. The average so-called plasterer-mechanic knows nothing of the application of stucco and only persistent effort will secure good results from him. His idea of wetting a wall is to give it a swish with a brush, whereas nothing less than a hose is sufficient to give a wall water before the application of stucco. He will even use lime-putty and plaster of Paris, to render his physical labor less exacting. Cement mortar will stick to any reasonably rough surface, permanently, and resist all weather condions indefinitely if properly made and applied.

It is a great pity that architects do not study this subject more, for it has many possibilities. This vicinity is blessed with many excellent materials suitable for stucco work. A variety of Portland cements, combined with the excellent sand and many kinds of crushed stone, give much opportunity for variation both in color and texture. It is but a step further to the use of color masses in faience and mosaics and the field immediately broadens into one of the most attractive the architect can wish for. When he decides to use concrete for its own value and bends his architecture to his material, when he comes to a fuller understanding of the selection of aggregates, and the values of texture and color in stucco, it is quite safe to predict that we will have buildings to live in that will have an artistic character far in advance of the structures of to-day, far more durable, far more sanitary, and far more beautiful.

REINFORCED CONCRETE GRAND STAIRCASE

DURING the reconstruction of the interior of Mr. George W. Vanderbilt's house at No. 640 Fifth Avenue, the grand stairway in the Atrium developed a difficult problem in structural design and execution. The distance from the first riser back to the supporting wall was 18′ 0″ and the maximum thickness of the soffit allowed by the architects' plans was but 4″. The stairway consists of a double spiral intersecting at a landing midway between the main floor and the second floor. It is self-supporting without beams, girders, or columns. In order to obtain the results desired, with particular regard to the thinness of the stairway supporting slab, it was found necessary to employ reinforced concrete construction. To carry out the designs of the Architects in structural steel or wrought iron would have been exceedingly expensive if not impossible. By using reinforced concrete the specifications were met in every particular.

The accompanying photographs show the reinforced concrete structure completed. This framework was covered with wood, plaster, onyx, and marble to produce the artistic effects required. The concrete was reinforced with Ransome bars varying in size from ¼″ up to ¾″. These bars run from the main floor up to the midway platform which is supported by the wall. This platform is reinforced in connection with the two wings which come down to it from the second floor. The reinforcement in these wings runs continuous from one wing down across the platform and up to the point of support for the other wing. In this way the platform finds support without cantilevering. The concrete was mixed in the proportion 1-1½-3, with coarse sand and ¾″ trap rock. The time occupied in placing the concrete was about nine hours. The concrete was kept thoroughly wet and after thirty days the forms were removed. One week after the removal of the forms a test of the structure was made by loading the upper wings with a total load of about 3,300 pounds without producing any appreciable deflection.

The plans for these stairs were drawn by Messrs, Hunt & Hunt, Architects, and the structural details worked out by Mr. E. L. Ransome, Consulting Engineer. The Turner Construction Company were the contractors.

OUR LADY OF LORETTO R. C. CHURCH.

ALMOST advanced example of the application of concrete to ornate architecture is shown in the church of Our Lady of Loretto in East New York. The necessity for building in permanent material is so forcibly presented to the modern practitioner that we are pleased to bring to his attention this notable work. What is novel and worthy of note in the structure is the number of intricate concrete moldings and details, the design and execution of which are far ahead in quality, of any similar work that has gained publicity.

As the church building proper consists of practically one large room, the problem of constructive details was very simple. In plan it is about 60 x 126 feet, rectangular in shape, with self-supporting walls and exterior pilaster columns supporting the cornices. The whole series of columns and walls rest on slightly spread footings to a solid gravel

(Continued page 153)

COUNTRY HOUSE, HOWARD SHAW, LAKE FOREST, ILL. (Stucco on metal lath) Howard Shaw, Architect.

DETAIL, ENTRANCE, ASSEMBLY HALL, KENILWORTH, ILL. (Stucco on metal lath) Geo. W. Maher, Architect.

(Continued from page 151)

foundation. The two towers which flank the pediment in front are carried by one interior and three wall columns.

With the exception of one line of short cast-iron intermediate columns, the entire construction is of concrete, slightly reinforced in places against internal stresses, but for the most part either of block or mass work. The walls are of solid concrete block, laid in alternate 4 and 8-inch thicknesses and backed with mass concrete to give the requisite wall thickness, which varies from 30 to 12 inches, according to the load. The pilaster columns are of mass concrete cast upright in place between their various elements, with grooves on the side into which the wall blocks were fitted as the work progressed. The capitals of the columns, a most intricate Corinthian design, were cast on the ground and set in place on top of the shaft. On top of the capitals, forms were set, with separating partitions for joints at each column, and the lintels, with cornices, cast continuously around the wall. Above the first cornice the walls and columns were carried in the same manner, up to the large pediment which, with its bas-relief 32 feet long and 10 feet high, was cast in one piece, resting on a solid lintel across the tops of the upper columns. The corner columns of the towers were cast in two pieces on the ground and hoisted into place, but the remainder of the towers was placed in forms. The curved roof arches of these towers are reinforced with rods tied back into the main walls for stability.

There are a great number of highly ornate details on the facing of the church. These include the large surmounting bas-relief in the pediment, the column capitals, the two small bas-reliefs over the doorways, the statues in the niches, the papal keys and crown over the central window and the cornices. In the production of these pieces several methods were employed. In all cases the design was first modeled in clay and from this model a form cast either in plaster or in sculptor's glue. The more refined work was cast in the factory of the constructor, a portion of the remainder on the ground at the site and some, notably the large bas-relief, in place.

The Contractor for the work, the firm of Federici Armezzani & Co., of Paterson, N. J., has had long experience in fine concrete casting and the methods used here in the detail work are the result of much study. On account of the varying conditions in the shapes and positions of the pieces, the exact methods employed are not capable of any exact description. The success of the execution depends first, upon the design of the forms, and second, upon the character and placing of the concrete. In the forms the greatest care was taken to make them perfectly solid so that no divergence of line could be noticed after the forms were removed. In the design the returns and projections were so arranged that the concrete could completely fill all voids and the forms be removed without damaging the small details. The mixture was a matter of local determination, affected by the character of the detail and the state of the materials and the weather. In all face work a mixture of cement and fine Franklin sand was used, varying from a 1:1 to a 1:3 mix. The rougher work and the backing was a gravel concrete. Atlas Portland cement was used throughout the work.

A remarkably fine piece of detail work has resulted. Edges and arrises are sharp and accurate and surfaces are smooth and free from holes and cracks, although the work has been exposed to the weather for nearly two years. This surface has somewhat the appearance of a subsequently applied plaster coating, although all pieces were cast intact with no demarcation between backing and surface.

USE OF CEMENT STONE OR CONCRETE IN INTERIOR ARCHITECTURE.

THE accompanying photograph is an admirable illustration of the use of cement stone for interior architecture. The mantel here shown was cast in molds in sections and then set up in place by H. W. Miller.

As this illustration so well shows, the material readily admits of fine detail treatment. Beautiful designs, with enrichments and artistic decorations, may be brought out in a strong and effective manner.

This use of the material has but recently attracted the attention of architects. The variety of uses and possibilities of the material are almost unlimited for interior work. Mantels, niches, pedestals and hall seats and the like are some of the things for which the material is used. Different colors and a variety of shades may readily be had, the preferable colors being white or the natural stone colors. The material is really better than natural stone, because of its hardness and superior wearing qualities. In many instances, it displaces terra cotta, over which it has very special advantages. This material may be produced in long straight pieces not subject to twist or distortion. Often terra cotta is warped or unevenly shrunken while in the burning kilns in the process of manufacture. This material is entirely free from all such defects.

Still another use of the material is that for garden, lawn and porch ornamentation and decoration. Entrance

(Continued page 155)

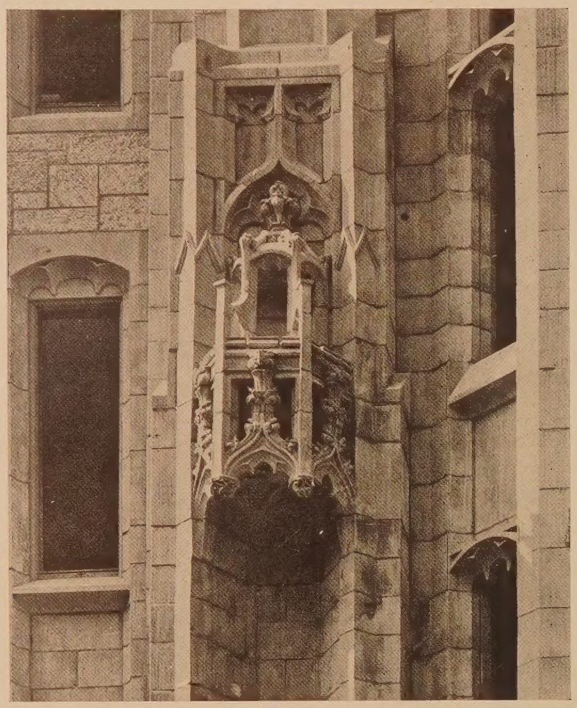
WAREHOUSE, ATLANTIC AND PACIFIC TEA CO., JERSEY CITY, N. J. Howard Chapman, Architect.

FACTORY AND OFFICES, PHELPS PUBLISHING CO., SPRINGFIELD, MASS. F. S. Hines, Architect.

TWO GOOD EXAMPLES OF INDUSTRIAL BUILDINGS IN REINFORCED CONCRETE. Turner Construction Co., Engineers.

(Continued rom page 153).

ts, garden walls, garden furniture, balustrades, ıntains and pergolas, all these and other useful and ornamental articles are readily produced from the cement stone, the cost of which is less than stone and but little more than terra cotta.



DETAIL OF CANOPY, CADET BARRACKS, WEST POINT.
Cram, Goodhue & Ferguson, Architects.
Made in Concrete Stone by the Economy Mfg. Co.

CONCRETE STONE FOR DECORATIVE WORK.

SOME of our illustrations this month, notably those of the Economy Manufacturing Company, show the rapid progress which has been made in molded concrete for decorative purposes. That concern has pursued its work along lines somewhat different from others, and has refused to put any coloring matter in the stone, and never tried to imitate natural stone, but insisted that the material should be sold not as imitation limestone, or imitation anything else, but as concrete, stoutly maintaining that architects would eventually see that the material is entitled to stand upon its individual responsibility. The argument to doubtful architects is that concrete is now used with great confidence for footing and foundations in very marshy ground, and that the same confidence may very properly be extended to concrete for the superstructure, especially as it contains about three times the proportion of cement, and is automatically mixed in a manner quite impossible by any contractor in ordinary foundations. Their contention is that a test of durability must necessarily be the extent of the permeability of the stone, and they have refused to put any water proofing upon the outside of the stone, and still less have they permitted anything of that sort to go inside of it. It seems clear that eventually this theory of making concrete so that its impermeability is greatly in excess of limestone or sand stone must prevail, but in no material in which the architect is called upon to deal is the personal equation more important than in the production of concrete stone. The concern that eliminates as far as possible the possibility of mistakes by workmen and produces a uniform article must, in the long run be the one accepted with the greatest freedom and so much decorative work in concrete stone produced in this manner is now in sight that there is no difficulty in confirming that opinion.

JUST now the discussion of Enamel seems very apropos as every residence being built has more or less of its trim in white, ivory or tinted Enamel, and none realize more thoroughly than the architects that there are many Enamels made and but few worthy of the name. They receive beautiful samples with a description of the fine quality of the Enamel so shown and the claim that "our Enamel will cover more square feet to the gallon than any other Enamel on the market and is easy of application," all of which, in a measure is true.

These two claims conclusively prove that the material represented is not Enamel but white paint containing an active pigment, usually white lead which can be worked out under the brush, affording great spreading power. The so-called Enamel contains very little zinc and little or no varnish; if any, a very cheap article.

White Lead is all right in its proper places, but Enamel is not one of the places.

For the last twenty-five years the Murphy Varnish Company has been making a White Enamel that has stood the test of time, and which "does *not* spread farther than any other Enamel in the market."

It is composed of a very pale varnish of exceptionally high quality, blended with the very finest Zinc White procurable.

The best results are obtained with two coats of Murphy' Varnish Company's Enamel Undercoating, and two coats of their White Enamel Finish if to be left in the gloss. If it is to be rubbed with fine pumice stone and water, then three coats of White Enamel Finish.

The Murphy Varnish Company also manufacture a Semi-Gloss Enamel, brush finish, and a Flat Enamel, brush finish, which are of superior quality and receive their fullest indorsement.

Instruct always to have these enamels used as they come from the can, flowed on and not brushed out.

You can get sample panels and further information in reference to these Enamels from J. W. Whitehead, Jr.—Manager Architectural Department, Murphy Varnish Co.—No. 1 Madison Avenue.

THE Evlock Engineering Company, New York City, has specialties in fireproof construction adaptable to work of any magnitude. Their system is worthy of full investigation by architects. The company is composed of practical and reliable men. President, Charles J. Everett; Vice-President, Geo. E. Conley; Secretary and Treasurer, J. L. Plock. Mr. Henry L. Hinton, former engineer of the National Fireproofing Company is associated with the firm.

MR. Geo. Oakley Totten, Jr., is the architect of the French Embassy, Washington, D. C. Under a cut of this building in the August issue credit was given to the firm of Totten & Rogers. We wish to correct the error.